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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/932,754	08/17/2001	Emil Kamieniecki	QCS-001DV3	5384
21323	7590	02/04/2004	EXAMINER	
TESTA, HURWITZ & THIBEAULT, LLP HIGH STREET TOWER 125 HIGH STREET BOSTON, MA 02110			HOLLINGTON, JERMELE M	
			ART UNIT	PAPER NUMBER
			2829	

DATE MAILED: 02/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/932,754

Applicant(s)

KAMIENIECKI ET AL.

Examiner

Jermele M. Hollington

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 October 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 53-57 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 53-57 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All   b) ☐ Some \*   c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_                      6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
3. Claims 53-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kamieniecki et al (5091691) in view of Yoshino et al (5708365).

Regarding claim 53, Kamieniecki discloses [see Fig. 17] an apparatus for making surface photovoltage measurements of a semiconductor comprising a sealed chamber (represented as enclosure 197) [see column 12 lines 15-19] for processing the semiconductor wafer (represented as specimen 11) [see column 4 lines 34-37 and column 6 lines 32-36] having a first surface and a second surface [see Fig. 17] and a head assembly (represented as arrangement 191) having a modulated light source (43) exposing [via glass plate 201] at least a portion of the semiconductor wafer (11) to light having a wavelength and modulated at a frequency [see column 7 lines 29-35]

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and lines 49-62 and column 12 lines 39-42] and a surface photovoltage sensor (represented as reference electrode assembly 199) comprising a plurality of electrodes (transparent plate 201, edge pick up areas 205, 207 and 209 and central pickup area 203) positioned adjacent to the first surface [see Fig. 17] to detect a surface photovoltage [see Abstract lines 6-8] induced at the first surface of the semiconductor wafer (11) in response to the light [via light source 43] without contacting the wafer (11) [see column 12 lines 39-50], the plurality of electrodes (201, 203, 205, 207 and 209) sufficient for detecting the surface photo-voltage on the first surface and the surface photo-voltage sensor (199) of head assembly (191) located within the sealed chamber (197). However, Kamieniecki et al do not disclose a conveying apparatus as claimed. Yoshino et al disclose [see Fig. 2] a semiconductor wafer fabrication system comprising a modulated light source (Halogen Light Source) exposing at least a portion of a semiconductor wafer (Silicon Wafer), a surface photo voltage sensor (SPV Transducer) comprising a plurality of electrodes (SPV signal) positioned adjacent a first surface to detect a surface photo voltage induced at the first surface of the semiconductor wafer (Silicon Wafer) and a conveying apparatus (combination of Wafer Chuck, Moving Stage and Stepping Motor Control Drive) conveying the wafer (Silicon Wafer) adjacent the voltage sensor (SPV Transducer). Further, Yoshino et al teach that the addition of conveying apparatus is advantageous because it moves the wafer around so that the SPV sensor (transducer) is able to evaluate the dielectric breakdown of an oxide layer on the wafer. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the apparatus of Kamieniecki et al by adding a conveying apparatus as taught by Yoshino et al in order to move the wafer around so that the SPV sensor (transducer) is able to evaluate the dielectric breakdown of the wafer.

Regarding claims 54-56, Kamieniecki discloses the sealed chamber (197) as a reduced pressure chamber, a chemically reactive gas chamber or an inert environment chamber [see column 12 lines 15-16 and column 13 lines 42-46].

Regarding claim 57, Kamieniecki discloses [see fig. 17] the head assembly (191) is entirely located within the sealed chamber (197).

### ***Conclusion***

4. Applicant's arguments filed Oct. 23, 2003 have been fully considered but they are not persuasive.

The applicants' state: *"Thus, while movement of the head relative to the wafer for wafer mapping purposes may occur in Yoshino, neither Kamieniecki nor Yoshino teach to bring the wafer beneath the head in a processing environment. Once the wafer has been brought beneath the head it may then be moved about for mapping purposes. "*

In response to the above statement, the examiner disagrees. First, in Yoshino et al [see Fig. 2], they disclose stepping motor control device that is connected to wafer chuck and the moving stage for the purpose of moving the wafer about. It is inherent to bring the wafer beneath the head since in order to remove the wafer from the wafer chuck after evaluation, one of ordinary skill in the art would use the computer to control the stepping motor control drive to move the moving stage away from the head in order to remove one wafer to evaluate another wafer.

5. Lastly, the limitation in the claim states: "...a conveying apparatus conveying said wafer adjacent said voltage sensor of the head assembly." The examiner will like to remind the applicants "Office personnel are to give claims their broadest reasonable interpretation" [see *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997)] and

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“Limitations appearing in the specification but not recited in the claim are not read into the claim” [see *In re Prater*, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-551 (CCPA 1969)].

Therefore, it is noted that the features upon which applicant relies (i.e., wafers are moved under the head during processing) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

The applicants further state: *“However, neither Kamienieki nor Yoshino teach the initial step of conveying the wafer beneath the head as a first step.”*

In response, the claims are refer to as structure claims and not method claims as well as the claims do not claim any steps in any order of what should happen first. Therefore, the argument is unpersuasive.

Lastly, the applicants’ state: *“Further, Applicants submit that the combining of the two references is improper in that the two references teach away from each other.”*

In response, “The reason or motivation to modify the reference may often suggest what the inventor has done, but for a different purpose or to solve a different problem. It is not necessary that the prior art suggest the combination to achieve the same advantage or result discovered by applicant. [See *In re Linter*, 458 F.2d 1013, and 173 USPQ 560 (CCPA 1972)]. Further, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

6. **THIS ACTION IS MADE FINAL.** Applicants are reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jermele M. Hollington whose telephone number is (571) 272-1960. The examiner can normally be reached on M-F (9:00-4:30 EST) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamand Cuneo can be reached on (571) 272-1957. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7382 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-1651.

Jermele M. Hollington  
Examiner  
Art Unit 2829

*J.M.H.*  
JMH

January 7, 2004



**KAMAND CUNEO  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800**